



SEQUENCE LISTING

<10> KOUCHI YASUHIRO
MASASGO AKINORI
TAKAHATI TAKAYUKI

<120> GENE ASSAY METHOD FOR PREDICTING GLAUCOMA ONSET RISK

<130> Q76319

<140>

<141>

<150> JP P2002-226612

<151> 2002-08-02

<160> 40

<170> PatentIn version 3.1

<210> 1

<211> 1734

<212> DNA

<213> Homo sapiens

<400> 1

atgtcccatc aacctctcag ctgcctcact gaaaaggagg acagccccag tgaaagcaca	60
ggaaatggac cccccacct ggcccaccca aacctggaca cgtttacccc ggaggagctg	120
ctgcagcaga tgaaagagct cctgaccgag aaccaccagc tgaaagaagc catgaagcta	180
aataatcaag ccatgaaagg gagatttgag gagctttcgg cctggacaga gaaacagaag	240
gaagaacgcc agttttttga gatacagagc aaagaagcaa aagagcgtct aatggccttg	300
agtcatgaga atgagaaatt gaaggaagag cttggaaaac taaaagggaa atcagaaagg	360
tcacttgagg accccactga tgactccagg cttcccaggg ccgaagcgga gcaggaaaag	420
gaccagctca ggaccaggt ggtgaggcta caagcagaga aggcagacct gttgggcatc	480
gtgtctgaac tgcagctcaa gctgaactcc agcggctcct cagaagattc ctttgttgaa	540
attaggatgg ctgaaggaga agcagaaggg tcagtaaaaag aaatcaagca tagtcctggg	600
cccacgagaa cagtctccac tggcacggca ttgtctaaat ataggagcag atctgcagat	660
ggggccaaga attacttcga acatgaggag ttaactgtga gccagctcct gctgtgccta	720
aggggaaggga atcagaagggt ggagagactt gaagttgcac tcaaggaggc caaagaaaga	780
gtttcagatt ttgaaaagaa aacaagtaat cgttctgaga ttgaaaccca gacagagggg	840

```

agcacagaga aagagaatga tgaagagaaa ggccccggaga ctggttggaa cgaagtggaa 900
gcactgaacc tccaggtgac atctctgttt aaggagcttc aagaggctca tacaaaaactc 960
agcaaagctg agctaataa gaagagactt caagaaaagt gtcaggccct tgaaaggaaa 1020
aattctgcaa ttccatcaga gttgaatgaa aagcaagagc ttgtttatac taacaaaaag 1080
ttagagctac aagtggaaag catgctatca gaaatcaaaa tggaacaggc taaaacagag 1140
gatgaaaagt ccaaattaac tgtgctacag atgacacaca acaagcttct tcaagaacat 1200
aataatgcat tgaaaacaat tgaggaacta acaagaaaag agtcagaaaa agtggacagg 1260
gcagtgctga aggaactgag tgaaaaactg gaactggcag agaaggctct ggcttccaaa 1320
cagctgcaaa tggatgaaat gaagcaaac attgccagc aggaagagga cctggaaacc 1380
atgaccatcc tcagggtcga gatggaagtt tactgttctg attttcatgc tgaaagagca 1440
gcgagagaga aaattcatga ggaaaaggag caactggcat tgcagctggc agttctgctg 1500
aaagagaatg atgctttcga agacggaggc aggagctcct tgatggagat gcagagtcgt 1560
catggggcga gaacaagtga ctctgaccag caggcttacc ttgttcaaag aggagctgag 1620
gacagggact ggcggcaaca gcggaatatt ccgattcatt cctgccccaa gtgtggagag 1680
gttctgctg acatagacac gttacagatt cacgtgatgg attgcatcat ttaa 1734

```

```

<210> 2
<211> 1166
<212> DNA
<213> Homo sapiens

```

```

<400> 2
tgcaagctct gcctcccggg ttcacgccat tctcctgect cagcctcccg agtagctggg 60
actacaagcg cccaacacca agcccggtta attttttgta ttttttagtag agacgggggtt 120
tcaactgtgtt agccaggatg gtctcaatct cctgacctca tgatctgtcc gcctcggcct 180
cccaaagtgc tgggattaca ggcgtgagcc accacgcccg gccctcattg taccctttta 240
tacaccata cacacacacg cacacacaca catgcacaca tgcgcgtgca cacacacaca 300
cacttttctg aagctacata tacctttttt gtttaaaagg aagaatcaaa aatgtccaaa 360
atgtaactgg agagaaagtg ggcaactttt ggagtaagta ttagcaatcg ccaatggggtt 420
tgtgggactc ccggggaccc cttgtggggc gggggacagc tctattttca acaggtgact 480
tttccacagg aacttctgca atgtcccatc aacctctcag ctgcctcact gaaaaggagg 540

```

acagccccag tgaaagcaca ggaaatggac cccccacct ggcccaccca aacctggaca 600
 cgtttacccc ggaggagctg ctgcagcaga tgaaagagct cctgaccgag aaccaccagc 660
 tgaaaggtga gcagggtgg cccctgtgtg ccccatcat cctgggctg caagaaatgc 720
 catccctttg cactaaggct tgggtgtgag ctcccttctc ccggtttcca taggtggtag 780
 ctggtgggga agcacaggat ttagcatttg gcaaggctaa atctgttctg atttttactt 840
 ttggaaacag gtacaagtaa aaactgtgtg tatctcaagg aagtagcata atgatattta 900
 gccattcaa aaggaaaaag aggctgggag tgggtggctca tgctgtcat tccatcactt 960
 tgggaggccg aggagaagg attgcttgag tacaggagtt caagaccagc ctgggcaaga 1020
 tggcaagacc tgatctctac aaaaaaatta aaaaaaaaaa aaaaaagctg ggcgtggtgg 1080
 tgcacgcctc tggtcctagc tactggggat gctgaggttg gaggattgct tgagcctggg 1140
 aagttggagc tgcagtgagc catgat 1166

<210> 3

<211> 1203

<212> DNA

<213> Homo sapiens

<400> 3

gcagtgagcc atgatcgtgc cactgcactt tagcctggat gacagagaga gacctgact 60
 caaaaaaaaa aaaaaaaaaa ggaaaaagga agaaaggctg ctatgggttc agagttagtc 120
 ctatatatta cttattaag agaaagcatc ctggtatctc aagatggctt tgggcaggac 180
 cagtatttga atctaggagt agtaagaact tccttagctc ctagtaacca tagatattta 240
 gatatttgtg ctgtagtggc ggtacccaaa tccactttat tttcttggga tttttaagga 300
 ctagaaatga tgttcatccc gctagtcttt tctgtaagca aaaaccactt cgtctttttg 360
 ctgctgaccc ttgggccaag gctaagcatg gcatctttca attcagagcc atgtgggtcaa 420
 gtggactaga gggagatttg gttcatcaga tcaagtcac tttcctgggtg tgtgactcca 480
 tcactctgaa cctcctgcag aagccatgaa gctaaataat caagccatga aaggagatt 540
 tgaggagctt tcggcctgga cagagaaaca gaaggaagaa cgccagtttt ttgagataca 600
 gagcaaagaa gcaaaagagc gtctaattggc cttgagtcac gagaatgaga aattgaagga 660
 agagcttggga aaactaaaag ggaaatcaga aaggatcatc gaggtgagca gaccgatcca 720

ttgtgatgtt gttttttttt tttcccttga catttgcagt ggaatcttac gtgtctagac	780
tcctagatca aaacctttca tggttcagtc tggattggtg ttttgcctgg tcttggaaga	840
agtgcctttg ctgaaaagat tggttgcctt attaagggtc atggataatc tcttttagaa	900
gaaagaaatt tgtaaagctt tgaccgtact gattgtaggc aaaagaacag taaggttata	960
aatcattgta ttgtattcat tatagatggt gcagatgggc ctctgcctag aaccaacaat	1020
tgtttttagt ttgtctttga tataaaaaat atgtttaaaa aaccattac tcagaatttt	1080
tacttgttga ccttgctgt tctctcagtc taaaatggag attattcact ttacattttc	1140
ctttttaaaa atgctttgga aaatgtcatg ttgtggtagg aggctatcgc attgccacag	1200
atg	1203

<210> 4

<211> 1183

<212> DNA

<213> Homo sapiens

<400> 4

ttgtcctgcc tcagcctccc gagtagctgg gactacaggc gcccgccacc acgccagct	60
aatctttttg tatttttagt agagacgggg tttcactgtg ttagccagga tgggtctccat	120
ctcctgacct tcatgatccg cccacctcgg cctcccaaag tgctgggatt acaggcgtga	180
gccaccacgc ctggcttggc tttttttttt ttttttttga gacagggctt tggcagtcct	240
aaactcctgg gctcaggcag tcttcctgcc tcagcctccc aactaatggg gactacaggt	300
gtgtgccact acacctggct aattattaaa ttttttgtaa agatgggggt cttgctatgt	360
tgcccaggct ggtctcaaaa tcttggcctc aagggatcct cccacttcag cctcccagag	420
ctctgcgatt aagggcattga gcccatgggtg cccagcctta gtttgatctg ttcattcact	480
ttactccttg tcatctccag gacccactg atgactccag gcttcccagg gccgaagcgg	540
agcaggaaaa ggaccagctc aggacccagg tggtgaggct acaagcagag aaggcagacc	600
tgttgggcat cgtgtctgaa ctgcagctca agctgaactc cagcggctcc tcagaagatt	660
cctttgttga aattaggatg gctgtgagtt tttggtttta tttttgtttt gagcaaacta	720
taaagcctcc cctggaaaga tgaaacaaat accacttttt cttgtcaaca caagccaagg	780
attgaggaaa ttccagtgtg gcaaagataa attggctctc attttctaag tatagcataa	840
tgcatgtaag ggttatcata gctaaaatgg aaaaatatta attacctttt atgatgaaag	900

ctgtagtctt tttttttttt ttcattcatgt cctggcaaatt tgaacatttt tgtgaccaga 960
aaaggaaaaa acccacacga acatgaactt totgtcattt ttcaaactag gtctcaaagc 1020
tgtattccgc agttcactta agggagcgca aacatatttt cacaacagaa cctctttttt 1080
ttgttttgag acagagtctt actctgtctt cccggctgga atgcagtgat gtgatctcgg 1140
ctcactgcac cctctgcctc cggggttcaa gagattctcg tgc 1183

<210> 5

<211> 1074

<212> DNA

<213> Homo sapiens

<400> 5

agtgacctgt ggtgcataca aatttctaatt gggaaccaac ttggccaaga tgggtgctttg 60
tgaatctcat tcacagaaac tgcccttttt ttaactttac ctccagttagt tctagcattt 120
tgcattttta aggaaggata tgtggagttg tcaccagctc tgtatgacct taaccttgag 180
aaagagggaa ctgccaagga aaggaggagg cagataagct ttcattgttta cagagtcagg 240
tagaatgtgt atggcgagat gaaactgacc ttcacgcctt agctgggata tttataatcc 300
cgacagggcg tgccaggtga ggggagggta cgtttccatt tcctctgagc caccocgttt 360
aaacagtgca catctgaatg tttggaagct tccttgggtt gcatgtcaca aaaattcatc 420
ttttgtcttt ttcttctttt gacaaagaat ttgtcttgta gacatattgt gttaaattcc 480
ttgcatttct gttttcacag gaaggagaag cagaagggtc agtaaaagaa atcaagcata 540
gtcctgggac caccgagaaca gtctccactg gcacgtatgt gaaggaagac tcgggctgtc 600
aggcagacag gctgggcagg ctccgtcactg ggtgcttgtc accggagggtc aaatgttgtg 660
acctgaggaa gtaacttctt tatgatttat accaggatct ttccagaata tttggtttga 720
atgctattta atgttgcagc tcaaactggc aaagattaaa aactgtttgg ttctgtttg 780
gtcacactg actgctctgt tctagtgggtg tctcacctcc agcagatgaa aagtgaaagc 840
aaactgggtc tcaatcaagt caatgatttg ttctaatca aagacatgtt tgctcattgg 900
ttccccggtg ccatttgacc cagaccagcc tgcccagctt ccataagtga aatattttca 960
ttttcttttc cctgctactt cccagttata agctggcatg gccaatactg gaacatcttt 1020
tgtaacaatg actgatagca ctctcagtca ttgtgggtgt tgccctgaaag tgcc 1074

<210> 6
 <211> 1153
 <212> DNA
 <213> Homo sapiens

<400> 6
 atttctctgc tctcattatt tgaaaccaca agtgaaaaag gttttctccc cttgacttaa 60
 gctgtgatgg tctctgttaa cttggagaaa ggccagtggc ctgtacaatg tgcctttatc 120
 ttttgtctga ctgcagtccc ctttgagact agatctctgg aaagcttggc accttcagcc 180
 acggctgcct ctgctgaact gttccgtgag ttttgtggtg tgggtgtgagg tacacagtga 240
 ctgttttgag gacgtgggtg tgtgcattgt aagctggcct ctccagagcc tctactgagtc 300
 tccacacctt ccctaggaag catggaggag cttggcactg ggggtcccag gaccagctgt 360
 gcttgttcac tagttgagaa ttagttggag aatgttctgg aaagcagttc ctttaagctg 420
 gtcccagtta tattgggtta ctctcttctt agtctttgga atttttctga tgaaaacctt 480
 ttaaccttta tactgaacag ggcattgtct aaatatagga gcagatctgc agatggggcc 540
 aagaattact tcgaacatga ggagttaact gtgagccagc tcctgctgtg cctaagggaa 600
 gggaatcaga aggtggagag acttgaagtt gcactcaagg aggccaaaga aaggtatgaa 660
 ataggttaac ttgaaatatg tgttttttta aaacagcttt cctgagatat aattaagata 720
 ccatacagtt caccatttta aagtatacat ttcagtgttt tttagaatat tccaggattg 780
 tgcaaccact gttactacaa tataatttta gaacattttt tcccccaaac agcactcact 840
 gtctgctcct ccaagcaatg tgctttctgt ctctatagat ttggccattc tagacatttc 900
 atataaatgg aattatacag tctgtggttt tttgtgactg gcttctttca cgtagcataa 960
 tgtttttgag gttcatctac aacgtagcat gtatcagtac ttccttttcc ttgctgaata 1020
 accttcatt gtctatatat acaacatttt gtttattcat tcatcagttg ataaacatta 1080
 gagttgttgc cactttttac ctattaggaa taatgctgct atgaacagtg tgtacaagtt 1140
 tttactggga tat 1153

<210> 7
 <211> 1103
 <212> DNA
 <213> Homo sapiens

<400> 7

```

ccacagtctc ttgtttcatt tggattggga cggctttcct gtgggttatga tttgggtgtta      60
agaatggtgt tacttttttt gttgtcgttt attcggtgac ttttaaactt agctgtgtcc      120
taaaaggaaa agtcctttcct tctctaataga attccttatga atgagatacc atgttcatgg      180
aacacacatg catccacatg tgtaaacaca aacaatttca aaaacattgc tgcataaggac      240
agttgcatgg aaacaaatgg tgttcaagat gagtttccact tgcctttttac ctctgtgtgt      300
atttgtctgt gaatcaattc tagccaattt taggatgaaa aataaaaacta atgctaatat      360
agtgaatgtg tagagatttt gaaaaccctt gatcctttat cccaattgta aacaatgttc      420
tttttagtac ttctgtaata attgctattt ctcttaaagc caaagagaaa gtaacttttc      480
tatcttctgt gattttccag agtttcagat tttgaaaaga aaacaagtaa tcgttctgag      540
attgaaaccc agacagaggg gagcacagag aaagagaatg atgaagagaa aggcccgag      600
actgtgagtc ctaagattcc acggccacta ccacaccac acacacgaga gtagtccagc      660
cactgaattc aaatcttggt atgggttatt tgctttagaa atatagaaat catgttgata      720
ttgaatatta tctatctatt ccttttatat gtccttgacc tgctctgtgt caattgtagc      780
gagatgtatt tcttttttgt tgttggtgtt ggagatggag tctcactctg tcgccaggct      840
ggagtgcagt ggcacgatct cagctcactg caacctccgc ctcccagggt caagcagttc      900
tcctgectca gcctcccaag tagctgggat tacagggtgcc cgtcaccacg cctggctaata      960
ttttgtattt ttaatacaga cagggtttca ccatgttggc caggatgggc ttgatctctt     1020
gacctcgtga tcctcccacc tcggcctccc agagtgtctgg gattacagat atgagccact     1080
gcgcccagct gcaagatgta ttt                                           1103

```

<210> 8

<211> 1116

<212> DNA

<213> Homo sapiens

<400> 8

```

acgaattcaa cagccagtag cagggaataa tggcttttca aggcattcaga aactcattta      60
caaaaattat agagctgcc a gaaaaaggc tgcacaacaa aaatagttga gtaaaactaga     120
aacatacact gggaagagag tatgggggca agttgttagc tggatagata ggactgtgct      180
ttgacacctc tgtggtctat gatctctgaa cctggaatag ggttcatttt aatagcgata     240

```

aagtcattat	cccagtgc	ccaaattgat	tagttcatgc	tttattagga	aacagaagtt	300
acccaaaact	tagcaaacct	aagtaccaag	tatccaaaac	attcttttcc	tacacaatgt	360
ttgggggtatt	gtcaaagttg	gattgattca	ccagccagtc	ttaattggct	actaatgggt	420
cagcctgttt	tctcctaaag	aggtttggtt	aatgtcagat	gataattgta	cagatatgtt	480
tgggatttcc	cgtatgatag	gttggaagcg	aagtggaagc	actgaacctc	caggtgacat	540
ctctgtttta	ggagcttcaa	gaggctcata	caaaactcag	caaagctgag	ctaataga	600
agagacttca	agaaaagtaa	gaatgagaga	gcaattttat	cctcctttga	aatatacatt	660
tttacaaggt	atactactat	ataaaaacat	agttttttta	ctatgttatg	actaaaagaa	720
aaatagacac	ctaattaaaa	tataaattca	gaatatacta	atgttccagt	taatgtgtga	780
gcatgaaata	cttghtaagat	gggggggttg	ggactggaga	actttaattc	tgccatttag	840
gggcatttgt	taaatgtacg	agcctgggta	agatctctac	agtaaagctg	tgagctagtt	900
ttcctgttac	tgacttaagc	tgatgacatt	gatgtgagta	agcataaaga	aagatgaaaa	960
gagcataaag	atcttgagtg	acatttattt	ggaaaaaggt	caatttcaat	ttgttttttc	1020
aatcagttaa	ttatttcagg	ctaacatgta	gattgagcgt	ttggcatttg	cttgtttctc	1080
ttgatgtaag	aagttacca	aaacttagca	aaccta			1116

<210> 9

<211> 1150

<212> DNA

<213> Homo sapiens

<400> 9

atgctttgtg	catagctgtc	atttatttgt	attatattga	aatcctcttt	ccgatcttta	60
agaagactta	ggggaacttc	ctttttccct	tattgaatct	ttgtcagaaa	ctaaagtctt	120
tgcaattgac	agaacctata	actttttttt	taatataaaa	gatatccaca	catcactaca	180
tgagaagcgc	cttagcta	tactactgtg	gtctgtgttt	aaatactaaa	aatgtatctg	240
tatgactagt	ttaaacaatt	attcaaagag	gacagtactg	catgtgagct	tagatctgta	300
cttttttatg	tttaggcgta	agggttcaga	aatatggcca	ggtctagtga	agaagcaagg	360
aggattatgt	atttcatttt	gcattcataa	accctacagc	cctaaaattc	ttatattgta	420
cataaccttg	gggtttgttt	aaaagccact	gcgacgtaaa	ggagcattgt	ttatcctcat	480
gaaatcttga	cctttcttag	gtgtcaggcc	cttgaaagga	aaaattctgc	aattccatca	540

gagttgaatg	aaaagcaaga	gcttgtttat	actaacaaaa	agttagagct	acaagtggaa	600
agcatgctat	cagaaatcaa	aatggaacag	gctaaaacag	aggatgaaaa	gtgagtatgt	660
tgagtcagaa	gggcagcgac	ggggcagagg	agggagaatc	gcctttttat	acagattgga	720
attcggatth	gagaataaat	tttaaaaaat	ttctttttca	cttatctgaa	ggagtcctag	780
cagacctctc	agagaggggg	ataaaattta	aaagttttgt	cataataaaa	ttatgctgat	840
tgtttgcact	ctgtcttgat	ttttcagaaa	agattttttt	tgagagtaag	aaatgctagt	900
aggtcgtggg	gtgataaagg	taggcgagaa	gattttttcta	ctggagtgtt	cagaaggttg	960
ggaggcaaga	ctataagttt	ctatgatatt	ttccccagga	ttccattttt	taatattctt	1020
tttaataggt	ccaaattaac	tgtgctacag	atgacacaca	acaagcttct	tcaagaacat	1080
aataatgcat	tgaaaacaat	tgaggaacta	acaagaaaag	aggtattcac	tgaaaaaaat	1140
tacttcata						1150

<210> 10

<211> 1094

<212> DNA

<213> Homo sapiens

<400> 10

gcaattccat	cagagttgaa	tgaaaagcaa	gagcttgttt	atactaacaa	aaagttagag	60
ctacaagtgg	aaagcatgct	atcagaaatc	aaaatggaac	aggctaaaa	agaggatgaa	120
aagtgagtat	gttgagtcag	aagggcagcg	acggggcaga	ggagggagaa	tcgccttttt	180
atacagattg	gaattcggat	ttgagaataa	attttaaaaa	atttcctttt	cacttatctg	240
aaggagtcct	agcagacctc	tcagagaggg	ggataaaatt	taaaagtttt	gtcataataa	300
aattatgctg	attgtttgca	ctctgtcttg	atttttcaga	aaagattttt	tttgagagta	360
agaaatgcta	gtaggtcgtg	gggtgataaa	ggtagggcag	aagatttttc	tactggagtg	420
ttcagaaggt	tgggaggcaa	gactataagt	ttctatgata	ttttccccag	gattccattt	480
tttaatatct	tttttaatag	gtccaaatta	actgtgctac	agatgacaca	caacaagctt	540
cttcaagaac	ataataatgc	attgaaaaca	attgaggaac	taacaagaaa	agaggatttc	600
actgaaaaaa	attacttcca	tagcctagta	atgaacagaa	actgttgaac	gttttgtata	660
taaaatagtt	acatgaatcc	ttcactaaat	ctggtttcaa	aggttgtttt	ccaatgtatc	720

attattttctt gcatctaggg tttgtaactt ctgatgttcc acatatgtgt aatgtgcttt	780
attgcgtaca aagatgatgt gaatgtccta tggtcagggg ttaagcactt cgtattttctt	840
tttttttttt tttgagacgg agtctcgctc tgctgcccag gctggagtgc agtggcgcca	900
tctcggctca ctgcaagctc cgcctcctgg gttcacgccca ttctcctgcc tcagcctccc	960
gagtagctgg gactacaggc gcccgccacc gcgcccggct aattttttgt attttttagta	1020
gagacggggg ttcaccttgt tagccaggat ggtctcgatc tcctgacctc gtgatccacc	1080
cgcctcggcc tccc	1094

<210> 11

<211> 1159

<212> DNA

<213> Homo sapiens

<400> 11

gtgctgggat tacaggtgtg agccatcatg cccagcagta gtgttcctct cttggaccta	60
ataatttttaa atttaaaaca tgtttcttct tttccactga ctgcaggaag taacaagtgg	120
caaaataaca gtatcaacga gtcacagcct tattaacatt ggagtttggt attgtatccc	180
tgatttcggg gttatcacct tttttttagg aattcattat ttgcaagcca caacttaaat	240
acaactttct gaataagtta gcgttgctga ttaatagact ggtagagct gatacatttt	300
ttagatctcg ctatgttgcc caggcttgct tcccactcct gggctcaaac gatcctccca	360
cctcagcctc tcaattctag gcatgagcca ccacacccgg ccagagctga taattaaaaa	420
aataaacctt tttctaatat ttactaaaa caggcagaat tatttcaaaa ccatttctag	480
aataaatggt tctttttcag tcagaaaaag tggacagggc agtgctgaag gaactgagtg	540
aaaaactgga actggcagag aaggctctgg cttccaaaca gctgcaaag gatgaaatga	600
agcaaaccat tgccaagcag gaagaggacc tggaaaccat gaccatcctc agggctcagg	660
tgaggcacct tccaaaaccc cagctgagcg aggccagccc tgactgtatt ctgcgattgg	720
aaagcaatgg tgtttagaat gtttgtaatt ttctatttta tatatttttt caccctgag	780
tgtattaaaa ctttaaaatt gaaacatttg gaaagtgtc agtggatctt atctgttcta	840
catttaatag gtaattggat tctttccagt ttgtggcatt atgattaacg ttgctaagac	900
attcctgtgc atgttgctct gttcacatgt ggatatttta tatttctggt gggtacacac	960
ctaggagtgg agtcgctgga tcataggctc tgcatgttac tcacttttaa caggtaatgc	1020

caaacagttt tccagagtgg ttggaccagt ttctactccc atcaacagag agtttccatg 1080
gctctacatc ttaccaacac ttctattatc agtcattttc ctttaaccac tctggagggt 1140
atatagtggg atctcattt 1159

<210> 12

<211> 1131

<212> DNA

<213> Homo sapiens

<400> 12

tttcataagg taaaataaga tagtaaagt aaagcaccca acataggacc tcacacatgt 60
ttggaattta acaaatagca tctatttgtg atgattattc ttttaaattt agcttaagac 120
cagccttcat aaatacacct ggcagaatca atttactata ttaagtaatc atttactata 180
ttaagttgat cctgaattgt ttattatcta aaagtccaga taattttgct gaattaatgg 240
tacctacagt atttaaaacta cctatatcag tgcagttgca ggatttgtgt tgtttaaagc 300
acacacacaa acacagcttg tatctgctat cggaatgtac ctggaaagtc atgggtcatta 360
tactgttttc tagcaggatt gtgcatctgt gattcacaag ggctattgaa ggatacagca 420
ctacctctc atcgcataaa cactgtaaga atctgcattc atctaggtac taacttctgt 480
atcttttttt cctctaacag atggaagttt actgttctga ttttcatgct gaaagagcag 540
cgagagagaa aattcatgag gaaaaggagc aactggcatt gcagctggca gttctgctga 600
aagagaatga tgctttcgaa gacggaggca ggtaaggaaa agagagagga ggaccagag 660
ctcacatcag catggccgta gaagaggtgc ctgtccaaag acgttcctga tttgaactat 720
aagaatagct gtgttcgctc cactgcactc ctgcctaggt gacagagcga gtcccctgtc 780
tgaaaaataa ataataataa taataattgc ttactttaca cttcatgtga tcatgttccc 840
aacacttagt ttgtcttaca ggaaagcttg acagagactt gtgggagctt gatcaagctc 900
cttgctttta gataagcaag gattttgatt tgattttaaa atgttggtgtt gttttgtttt 960
gttttttgag gcagggtctc actcctgtca cccaggctgg agtgcagtgg catgatcatg 1020
gttcactgca gcctcaactt cctgagctca ggtgatcctc gtgcctcagc ctcccagagta 1080
gctggaacta caagtgcag ccaccatgca cttgtaacaa taatgttacg t 1131

<210> 13
 <211> 1080
 <212> DNA
 <213> Homo sapiens

<400> 13
 accttgtgct gtttaggaatt tgggtgggtag ctcccccatc tattttatac ttttacatat 60
 cacatacaca cttacctata tcatatctca aaaccagata atattgattt ctctgtgttt 120
 aagttacaaa atgatcactg taggtattgt tctgcagctt actttacata atattatgat 180
 tttgagctct cttgatatgt gcggatgtaa tttattatac ttcattgctg tatttttgatt 240
 tataaatatg ccacttcttt ctaatctgtt tctactgat gacagtttg tttttcctg 300
 atttttttta actgtaatta tttactttca ctagtctcct agtgccaata gtattttaaaa 360
 ctaaaattag tctgggtttt atgaaccttg gcagtgtagt ttgagtcttt tttcccctac 420
 ttctgtggac tgtctgctca gtgttgtcat gtttcggggg tgtagaacat cacacagcgt 480
 gttgcttttc gtctggcag gcagtccttg atggagatgc agagtcgtca tggggcgaga 540
 acaagtgact ctgaccagca ggcttacctt gttcaaagag gtgagtcccg tgtgatcctg 600
 gattttcagg aaatagctat cctatgaaaa agatgcttga agaaaaattc cacttcattc 660
 tctacaatgg attccaaatc aaggcaccaa aaatatagca cccgtcagtc tcattaccac 720
 agcactccca tctccatcca ttaccaccg aatccagacc agacccttca ccctgccaga 780
 aggtgcctgg cacggccaca ctttttcttt tttttctttt tttttgagac agaatttcgc 840
 tgtgtcgtcc aggctggagt gcagtggcga gatctcggct cactgcaacc tccacttcct 900
 gtgttcaaac ggttctcctt ccacagctc ccgagtggct ggaattacag gcgtgcaccg 960
 ccacaccag ctaatttttg tatttttaat agagatgggg tttcacctg ttggccaggc 1020
 tgggtctgaa ctctgacct caactaacct gcctgtctcg gtctcccaa gtaccgggat 1080

<210> 14
 <211> 1122
 <212> DNA
 <213> Homo sapiens

<400> 14
 catgccagta atcctagcac tttgggaggc caaggtgggc agatcatgag gtcaggagtt 60
 cgagaccagt ctggccaaca tggcaaaacc acatctctac taaaaatata aaaattagct 120
 gggcgtggtg gcgcgcacct gtgatcccag ctactcagga ggccaaagca ggaggatcac 180

ttgaacctgg gaggcggagg ttgcagtgag ccaagatcgt gccactgccc tccagcctgg	240
gtgacagcga gactccgtct caaaaaaaaaa aaaaaaaaaa aaaaatccta aaataatagg	300
gaagcaggta tcacttggag agatTTTTtct ctatgtgcat cgtgatgact tcagttaaag	360
accaaacacc tgtgctcatg tcccactacg tgttgaatac gaagttgaac tgatgttaaa	420
actcgccatc tgttcttcaa gtgaaacaaa cacaactgcc tgcaaaatgg aactaatgga	480
attatcatac ttattcccag gagctgagga cagggactgg cggcaacagc ggaatattcc	540
gattcattcc tgccccaagt gtggagaggt tctgcctgac atagacacgt tacagattca	600
cgtgatggat tgcattcattt aagtgttgat gtatcacctc cccaaaactg ttggtaaagt	660
tcagatTTTT tctccaaga gttgtgcttt tgtgttattt gttttcactc aaatattttg	720
cctcattatt cttgttttaa aagaaagaaa acaggccggg cacagtggct catgcctgta	780
atcccagcac tttgggaggt cgaggtgggt ggatcacttg gggtcagggt ttgagaccag	840
cctggccaac atggcggaac cctgtctcta ccaaattac aaaaattagc cgagcatggt	900
ggcgcagtcg tgtagtcgca gctactcgcg aggttgaggc aggagaattg cttgaaccca	960
ggaagtggca gttgcagtga gccgagacga caccactgca ctccagcctg ggtgacagag	1020
ggagactctg tctcgaaaga aagaaagaaa aaaaggaagg aaggagaagg aaggaaggag	1080
aagaaaaggt acctgttcta cgtagaacac ctttgggtgga gt	1122

<210> 15

<211> 23

<212> DNA

<213> Artificial

<220>

<223> Designed DNA based on OPTN gene

<400> 15

aaggaagaat caaaaatgtc caa

23

<210> 16

<211> 25

<212> DNA

<213> Artificial

<220>

<223> Designed DNA based on OPTN gene

<400> 16
acctgtttcc aaaagtaaaa atcag 25

<210> 17
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Designed DNA based on OPTN gene

<400> 17
gaaatgatgt tcatcccgt 20

<210> 18
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Designed DNA based on OPTN gene

<400> 18
cccttaatag ggcaaccaat c 21

<210> 19
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Designed DNA based on OPTN gene

<400> 19
tgtgccacta cacctggcta 20

<210> 20
<211> 26
<212> DNA
<213> Artificial

<220>
<223> Designed DNA based on OPTN gene

<400> 20
tttttccatt ttagctatga taaccc 26

<210> 21
 <211> 20
 <212> DNA
 <213> Artificial

<220>
 <223> Designed DNA based on OPTN gene

<400> 21
 gaaactgacc ttcacgcctt 20

<210> 22
 <211> 20
 <212> DNA
 <213> Artificial

<220>
 <223> Designed DNA based on OPTN gene

<400> 22
 gagccaaaca ggaaccaaac 20

<210> 23
 <211> 19
 <212> DNA
 <213> Artificial

<220>
 <223> Designed DNA based on OPTN gene

<400> 23
 aggaccagct gtgcttggt 19

<210> 24
 <211> 22
 <212> DNA
 <213> Artificial

<220>
 <223> Designed DNA based on OPTN gene

<400> 24
 gctacgttgt agatgaacct ca 22

<210> 25
 <211> 20
 <212> DNA
 <213> Artificial

<220>
 <223> Designed DNA based on OPTN gene

 <400> 25
 tgcattggaaa caaatgggtgt 20

 <210> 26
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed DNA based on OPTN gene

 <400> 26
 cacagagcag gacaaggaca 20

 <210> 27
 <211> 19
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed DNA based on OPTN gene

 <400> 27
 cccagtgcatt ccaaattga 19

 <210> 28
 <211> 22
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed DNA based on OPTN gene

 <400> 28
 tcatgctcac acattaactg ga 22

 <210> 29
 <211> 20
 <212> DNA
 <213> Artificial

 <220>
 <223> Designed DNA based on OPTN gene

 <400> 29
 ttcagaaata tggccaggctc 20

<210> 30
 <211> 20
 <212> DNA
 <213> Artificial

<220>
 <223> Designed DNA based on OPTN gene

<400> 30
 cagagtgcaa acaatcagca 20

<210> 31
 <211> 27
 <212> DNA
 <213> Artificial

<220>
 <223> Designed DNA based on OPTN gene

<400> 31
 gagagtaaga aatgctagta ggtcgtg 27

<210> 32
 <211> 21
 <212> DNA
 <213> Artificial

<220>
 <223> Designed DNA based on OPTN gene

<400> 32
 tccctgacca taggacattc a 21

<210> 33
 <211> 18
 <212> DNA
 <213> Artificial

<220>
 <223> Designed DNA based on OPTN gene

<400> 33
 ccactcctgg gctcaaac 18

<210> 34
 <211> 21
 <212> DNA
 <213> Artificial

<220>

<223> Designed DNA based on OPTN gene

<400> 34

tgccacaaac tggaaagaat c

21

<210> 35

<211> 20

<212> DNA

<213> Artificial

<220>

<223> Designed DNA based on OPTN gene

<400> 35

cagtgcagtt gcaggatttg

20

<210> 36

<211> 21

<212> DNA

<213> Artificial

<220>

<223> Designed DNA based on OPTN gene

<400> 36

tgatcaagct cccacaagtc t

21

<210> 37

<211> 24

<212> DNA

<213> Artificial

<220>

<223> Designed DNA based on OPTN gene

<400> 37

tttcactagt ctctagtgca caat

24

<210> 38

<211> 20

<212> DNA

<213> Artificial

<220>

<223> Designed DNA based on OPTN gene

<400> 38

gattcggtgg gtaatggatg

20

<210> 39
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Designed DNA based on OPTN gene

<400> 39
gggaagcagg tatcacttgg

20

<210> 40
<211> 18
<212> DNA
<213> Artificial

<220>
<223> Designed DNA based on OPTN gene

<400> 40
atccaccac ctcgacct

18